

What is claimed is:

1. An isolated, enriched or purified nucleic acid molecule encoding a kinase polypeptide, wherein said nucleic acid molecule comprises a nucleotide sequence that:

(a) encodes a polypeptide having an amino acid selected from the group consisting of those set forth in SEQ ID NO: 67 through 132;

(b) is the complement of the nucleotide sequence of (a);

(c) hybridizes under stringent conditions to the nucleotide molecule of (a) and encodes a kinase polypeptide;

(d) encodes a polypeptide having an amino acid sequence selected from the group consisting of those set forth in SEQ ID NO: 67 through 132, except that said polypeptide lacks one or more, but not all, of an N-terminal domain, a C-terminal catalytic domain, a catalytic domain, a C-terminal domain, a coiled-coil structure region, a proline rich region, a spacer region and a C-terminal tail; or

(e) is the complement of the nucleotide sequence of (d).

2. The nucleic acid molecule of claim 1, further comprising a vector or promoter effective to initiate transcription in a host cell.

3. The nucleic acid molecule of claim 1, wherein said nucleic acid molecule is isolated, enriched, or purified from a mammal.

4. The nucleic acid molecule of claim 3, wherein said mammal is a human.

5. The nucleic acid molecule of claim 1 comprising a nucleic acid having a nucleotide sequence which hybridizes under stringent conditions to a nucleotide sequence encoding a kinase polypeptide having an amino acid sequence selected from the group consisting of those set forth in SEQ ID NO: 67 through 132.

6. An isolated, enriched, or purified kinase polypeptide, wherein said polypeptide comprises:

(a) an amino acid sequence at least about 90% identical to a sequence selected from the group consisting of those set forth in SEQ ID NO: 67 through 132; or

(b) an amino acid sequence selected from the group consisting of those set forth in SEQ ID NO: 67 through 132, except that the polypeptide lacks one or more, but not all, of the domains selected from the group consisting of an N-terminal domain, a C-terminal catalytic domain, a catalytic domain, a C-terminal domain, a coiled-coil structure region, a proline- rich region, a spacer region-and a C-terminal tail.

7. The kinase polypeptide of claim 6, wherein said polypeptide is isolated, purified, or enriched from a mammal.

8. The kinase polypeptide of claim 7, wherein said mammal is a human.

9. An antibody or antibody fragment having specific binding affinity to the kinase polypeptide of claim 6, or a domain thereof.

10. A hybridoma which produces the antibody of claim 9.

11. A kit comprising an antibody which binds to a polypeptide of claim 6 and a negative control antibody.

12. A method for identifying a substance that modulates the activity of a kinase polypeptide comprising the steps of:

(a) contacting a kinase polypeptide substantially identical to an amino acid sequence selected from the group consisting of those set forth in SEQ ID NO: 67 through 132 with a test substance;

(b) measuring the activity of said polypeptide; and

(c) determining whether said substance modulates the activity of said polypeptide.

13. A method for identifying a substance that modulates the activity of a kinase polypeptide in a cell comprising the steps of:

- (a) expressing a kinase polypeptide having a sequence substantially identical to an amino acid sequence selected from the group consisting of those set forth in SEQ ID NO: 67 through 132;
- (b) adding a test substance to said cell; and
- (c) monitoring a change in cell phenotype or the interaction between said polypeptide and a natural binding partner.

14. A method for treating a disease or disorder by administering to a patient in need of such treatment a substance that modulates activity of the kinase polypeptide according to claim 6.

15. The method of claim 14, wherein said disease or disorder is selected from the group consisting of cancers, immune-related diseases and disorders, cardiovascular disease, brain or neuronal-associated diseases, metabolic disorders and inflammatory disorders.

16. The method of claim 15, wherein said disease or disorder is selected from the group consisting of cancers of tissues; cancers of blood or hematopoietic origin; cancers of the breast, colon, lung, prostate, cervix, brain, ovaries, bladder or kidney.

17. The method of claim 15, wherein said disease or disorder is selected from the group consisting of disorders of the central or peripheral nervous system; migraines; pain; sexual dysfunction; mood disorders; attention disorders; cognition disorders; hypotension; hypertension; psychotic disorders; neurological disorders and dyskinesias.

18. The method of claim 15, wherein said disease or disorder is selected from the group consisting of inflammatory disorders including rheumatoid arthritis, chronic inflammatory bowel disease, chronic inflammatory pelvic disease, multiple sclerosis, asthma, osteoarthritis, psoriasis, atherosclerosis, rhinitis, autoimmunity and organ transplant rejection.

19. The method of claim 15, wherein said substance modulates kinase activity *in vitro*.

20. The method of claim 19, wherein said substance is a kinase inhibitor.

21. A method for detection of a kinase polypeptide in a sample as a diagnostic tool for a disease or disorder, wherein said method comprises:

(a) contacting said sample with a nucleic acid probe which hybridizes under hybridization assay conditions to a nucleic acid target region of the nucleic acid molecule of claim 1; and

(b) detecting the presence or amount of the target region:probe hybrid, as an indication of said disease or disorder.

22. The method of claim 21, wherein said disease or disorder is selected from the group consisting of cancers, immune-related diseases and disorders, cardiovascular disease, brain or neuronal-associated diseases, metabolic disorders and inflammatory disorders.

23. The method of claim 22, wherein said disease or disorder is selected from the group consisting of cancers of tissues; cancers of blood or hematopoietic origin; cancers of the breast, colon, lung, prostate, cervix, brain, ovary, bladder or kidney.

24. The method of claim 22, wherein said disease or disorder is selected from the group consisting of central or peripheral nervous system disease, migraines, pain; sexual dysfunction; mood disorders; attention disorders; cognition disorders; hypotension; hypertension; psychotic disorders; neurological disorders and dyskinesias.

25. The method of claim 22, wherein said disease or disorder is selected from the group consisting of inflammatory disorders including rheumatoid arthritis, chronic inflammatory bowel disease, chronic inflammatory pelvic disease, multiple sclerosis, asthma, osteoarthritis, psoriasis, atherosclerosis, rhinitis, autoimmunity, and organ transplant rejection.

26. An isolated, enriched or purified nucleic acid probe consisting essentially of about 10-30 contiguous nucleotide bases of a nucleic acid sequence that encodes a polypeptide selected from the group consisting of SEQ ID NO: 67 through 132.

27. The isolated, enriched or purified nucleic acid probe of Claim 26 consisting essentially of about 10-30 contiguous nucleotide bases of a nucleic acid sequence selected from the group consisting of SEQ ID NO:1 through 66.

28. A recombinant cell comprising the nucleic acid molecule of claim 1.

29. A vector comprising the nucleic acid molecule of claim 1.

30. A method for identification of a nucleic acid encoding a kinase polypeptide in a sample, wherein said method comprises:

- (a) contacting said sample with the nucleic acid probe of claim 26; and
- (b) isolating a nucleic acid that hybridizes to said probe, thereby identifying said nucleic acid encoding a kinase polypeptide.

31. A transgenic mouse comprising a nucleic acid sequence that encodes a polypeptide substantially identical to an amino acid sequence selected from the group consisting of those set forth in SEQ ID NO: 67 through 132; wherein said mouse exhibits a phenotype, relative to a wild-type phenotype, comprising modulation of kinase activity of said polypeptide.

32. A cell or cell line obtained from the transgenic mouse of claim 31.

33. A method for identifying a substance that modulates the activity of a kinase polypeptide, wherein said method comprises:

- (a) determining in a sample obtained from the transgenic mouse of claim 31 the presence and/or quantity of kinase activity attributable to the polypeptide encoded by the nucleic acid used to create said transgenic mouse;
- (b) administering a test substance to said transgenic mouse; and
- (c) determining whether said test substance modulates the kinase activity as determined in step (a).

34. A method for identifying a substance that modulates the activity of a kinase polypeptide, wherein said method comprises:

- (a) determining in a cell line obtained from the transgenic mouse of claim 31 the presence and/or quantity of kinase activity attributable to the polypeptide encoded by the nucleic acid used to create said transgenic mouse;
- (b) contacting said cell line with a test substance; and
- (c) determining whether said test substance modulates the kinase activity as determined in step (a).

35. A method for treating a disease or disorder by administering to a patient in need of such treatment a substance that modulates the activity of a kinase identified by the method of claim 33.

36. A method for treating a disease or disorder by administering to a patient in need of such treatment a substance that modulates the activity of a kinase identified by the method of claim 34.